REMARKS

Applicants have amended their claims in order to further clarify the definition of various aspects of the present invention. Specifically, Applicants have amended claim 1 to recite that the chain molecule, immobilized on a "plastic" substrate, is visualized and identified. See, e.g., the third full paragraph on page 12 of Applicants' specification. Claims 2 and 4 have been amended in light of amendments to claim 1. Claim 17 has been amended to recite that the production process includes the method "according to" Claim 1.

In addition, Applicants are adding new claims 19-26 to the application. Claim 19 recites a molecular detection method including visualizing and identifying a chain molecule immobilized on a substrate by specified probing, wherein the chain molecule immobilized on the substrate is a nucleic acid. Note, for example, the first full paragraph on page 7 of Applicants' specification. Claims 20 and 21, each dependent on claim 19, respectively recites that the nucleic acid is uprightly disposed on the substrate, and recites that the chain molecule immobilized on the substrate is a multiple strand molecule including the nucleic acid and at least one chain molecule that can bind to the nucleic acid; and claim 22, dependent on claim 21, further defines the multiple strand molecule, as a complex of the nucleic acid and one or more types of molecules selected from a specific group thereof. Claims 23 and 24 respectively define a molecular counting method and a molecular localization detection method, each reciting detecting a molecule by the method according to claim 19, with claim 23 reciting the further step of counting the number of detected chain molecules per unit area, and with claim 24 reciting the additional step of counting the number of detected chain molecules per unit area, thus giving molecular localization information. Claims 25 and

26respectively recites a production process for a substrate with a chain molecule immobilized thereon, this process including the method according to claim 19; and recites that the substrate in the molecular detection method of claim 19 is a plastic substrate.

In connection with newly added claims 20-26, note, for example, claims 2, 4, 5, 6, 7, 17 and 1.

The withdrawal of claim 18 from further consideration, as being drawn to a non-elected invention, set forth in Item 4 on page 2 of the Office Action mailed June 12, 2007, is noted. Applicants respectfully direct attention to claim 18, of the withdrawn claims. Claim 18 defines a production process for a substrate with a chain molecule immobilized thereon. Thus, claim 18 recites a process. While claim 18 uses the system of claim 8, it must be emphasized that claim 18 is a process claim. It is respectfully submitted that claim 18 should be considered with the other process claims in the application. It is to be noted that claim 18 can be set forth in independent form, incorporating therein the subject matter of parent claim 8, setting forth an independent process claim corresponding to the process claims being considered on the merits in the above-identified application.

The objection to claim 17, as set forth in Item 6 on page 2 of the Office Action mailed June 12, 2007, is noted. In view of present amendments to claim 6, it is respectfully submitted that the objection thereto is moot.

Applicants respectfully submit that all claims presented for consideration by the Examiner patentably distinguish over the teachings of the document applied by the Examiner in rejecting claims in the Office Action mailed June 12, 2007, that is, the teachings of the article by Wadu-Mesthrige, et al., “Fabrication of Nanometer-Sized

Protein Patterns Using Atomic Force Microscopy and Selective Immobilization", in Biophysical Journal, Vol. 80 (April 2001), pages 1891-99, under the provisions of 35 USC 102 and 35 USC 103.

It is respectfully submitted that this reference as applied by the Examiner would have neither taught nor would have suggested such a molecular detection method as in the present claims, including visualizing and identifying a chain molecule immobilized on a plastic substrate, by the specified probing in solution. See claim 1. Note also claim 26.

In addition, it is respectfully submitted that the teachings of the applied article would have neither taught nor would have suggested such molecular detection method as in the present claims, including visualizing and identifying a chain molecule immobilized on a substrate by the specified probing in solution, and wherein the chain molecule immobilized on the substrate is a nucleic acid. Note claim 19.

Additionally, it is respectfully submitted that the teachings of the applied reference would have neither disclosed nor would have suggested such molecular counting method, or such molecular localization detection method, or such production and 19. See claims 6, 7, 17, 23, 24 and 25.

Furthermore, it is respectfully submitted that the teachings of the applied reference would have neither disclosed nor would have suggested such molecular detection method as in the present claims, having features as discussed previously in connection with claims 1 and 19, and, additionally, wherein the chain molecule (nucleic acid) is uprightly disposed (see claims 2 and 20), in particular, is an uprightly disposed single strand molecule (note claim 2); and/or wherein the uprightly disposed single strand molecule is a molecule selected from the specific group of substances as in

claim 3; and/or wherein the chain molecule immobilized on the substrate is a multiple strand molecule comprising an uprightly disposed single strand molecule (comprising the nucleic acid) and at least one chain molecule that binds to the single strand molecule (nucleic acid), as in claims 4 and 21; and/or wherein the multiple strand molecule is a complex as in claims 5 and 22.

Through the presently claimed method, a chain molecule immobilized on a plastic substrate (that is, a relatively inexpensive substrate, providing a degree of freedom in choosing the substrate) can be visualized and identified; and, moreover, nucleic acids can be visualized and identified.

The article by Wadu-Mesthrige reports on producing protein nanopatterns with precise control over the pattern size and geometry. The basic idea of the approach described in this article is to use a self-assembled monolayer (SAM) as a nanometer thickness resist, with two-dimensional nanopatterns of SAMs being produced using scanning probe lithography. These prepatterned SAMs dictate subsequent adsorption of proteins. Note the paragraph bridging pages 1891 and 1892. Note also the paragraph bridging the left- and right-hand columns on page 1892. See also Fig. 1 on page 1893, and the discussion in connection therewith in the sole full paragraph in the right-hand column on page 1892. See also the Conclusion bridging the left- and right-hand columns on page 1897.

As can be seen in this article, and in particular in the "MATERIALS AND METHODS" in the left-hand column on page 1892, gold films were prepared with protein formed thereon. It is respectfully submitted that this article would have neither taught nor would have suggested use of the plastic substrate, as in various of the

present claims, and would have neither taught nor would have suggested wherein the chain molecule immobilized on the substrate is a nucleic acid.

In Item 8 on page 3 of the Office Action mailed June 12, 2007, the Examiner has recognized that Wadu-Mesthrige, et al. utilizes a gold film, with immobilization of proteins. It is respectfully submitted that such disclosure in the reference article would have neither taught nor would have suggested the presently claimed process, and advantages thereof, including wherein nucleic acid can be visualized and identified, and, e.g., the degree of freedom in choice of a substrate is increased.

In view of the foregoing comments and amendments, reconsideration and allowance of all claims presently in the application are respectfully requested.

To the extent necessary, Applicants hereby petition for an extension of time under 37 CFR 1.136. Kindly charge any shortage of fees due in connection with the filing of this paper, including any extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Account No. 01-2135 (case 1204.45527X00), and please credit any overpayments to such Deposit Account.

Respectfully submitted,

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